

IN THE CLAIMS:

- 1 1. (PREVIOUSLY PRESENTED) A method for routing a source routed packet to a
2 Source Route Bridge (SRB) subnet for a destination station, comprising:
3 maintaining an address resolution protocol table (ARP table) in a router having an
4 entry for each station on said SRB subnet to which said router routes packets, said entry
5 having a first field containing a Layer 3 address of said each station, said entry having a
6 second field containing a Layer 2 address of said each station including a physical
7 (MAC) address and Route Information Field information (RIF information) from said
8 router to said each station; and
9 writing said RIF information read from said second field of said ARP table into a
10 Route Information Field (RIF) in a message packet before routing said message packet to
11 said SRB subnet for said destination station.
- 1 2. (PREVIOUSLY PRESENTED) The method as in claim 1 further comprising:
2 populating said RIF information in said ARP table by reading RIF information
3 from a field of an All Routes Explorer (ARE) packet, either a request or response packet.
- 1 3. (PREVIOUSLY PRESENTED) A method for routing a source routed packet to a
2 Source Route Bridge (SRB) subnet for a destination station, comprising:
3 maintaining an address resolution protocol table (ARP table) in a router having an
4 entry for each station on said SRB subnet to which said router routes packets, said entry
5 having a first field containing a Layer 3 address of said each station, said entry having a
6 second field containing a Layer 2 address of said each station including a physical
7 (MAC) address and Route Information Field information (RIF information) from said
8 router to said each station;

9 writing said RIF information read from said second field of said ARP table into a
10 Route Information Field (RIF) in a message packet before routing said message packet to
11 said SRB subnet for said destination station; and

12 populating said RIF information in said ARP table by reading RIF information
13 from a field of an Single Routes Explorer (SRE) packet, either a request or response
14 packet.

1 4. (PREVIOUSLY PRESENTED) The method as in claim 1 further comprising:

2 populating said RIF information in said ARP table by reading RIF information
3 from a field of an ARP Explorer packet, either a request or response packet.

1 5. (PREVIOUSLY PRESENTED) The method as in claim 1 further comprising: updating
2 said second field of said ARP table when said router receives an ARP Explorer request
3 packet from one of said stations on said SRB subnet and said request packet contains RIF
4 information.

1 6. (PREVIOUSLY PRESENTED) A method for routing a source routed packet to a
2 Source Route Bridge (SRB) subnet for a destination station, comprising:

3 maintaining an address resolution protocol table (ARP table) in a router having an
4 entry for each station on said SRB subnet to which said router routes packets, said entry
5 having a first field containing a Layer 3 address of said each station, said entry having a
6 second field containing a Layer 2 address of said each station including a physical
7 (MAC) address and Route Information Field information (RIF information) from said
8 router to said each station;

9 writing said RIF information read from said second field of said ARP table into a
10 Route Information Field (RIF) in a message packet before routing said message packet to
11 said SRB subnet for said destination station; and

12 transmitting an ARP Explorer request packet upon expiration of an ARP table
13 flush timer, and updating said second field of said ARP table in response to receipt of an
14 ARP Explorer response packet transmitted by a station in response to said ARP Explorer
15 request packet.

1 7. (ORIGINAL) The method as in claim 6 further comprising: choosing a time period of
2 four (4) hours for expiration of said ARP table flush timer.

1 8. (PREVIOUSLY PRESENTED) A method for routing a source routed packet to a
2 Source Route Bridge (SRB) subnet for a destination station, comprising:
3 maintaining an address resolution protocol table (ARP table) in a router having an
4 entry for each station on said SRB subnet to which said router routes packets, said entry
5 having a first field containing a Layer 3 address of said each station, said entry having a
6 second field containing a Layer 2 address of said each station including a physical
7 (MAC) address and Route Information Field information (RIF information) from said
8 router to said each station;

9 writing said RIF information read from said second field of said ARP table into a
10 Route Information Field (RIF) in a message packet before routing said message packet to
11 said SRB subnet for said destination station; and

12 transmitting a validation frame upon expiration of a validation time interval, and
13 in the absence of a response from said validation frame, transmitting an ARP Explorer
14 request packet, and updating said second field of said ARP table in response to receipt of
15 an ARP Explorer response packet transmitted by a station in response to said ARP Ex-
16 plorer request packet.

1 9. (ORIGINAL) The method of claim 8 further comprising: choosing a validation time
2 interval of 15 seconds.

1 10. (PREVIOUSLY PRESENTED) A router comprising:

2 an address resolution protocol table (ARP table), said ARP table maintained in
3 said router, said ARP table having an entry for each station on a Source Route Bridge
4 (SRB) subnet to which said router routes packets, said entry having a first field contain-
5 ing a Layer 3 address of said station, said entry having a second field containing a Layer
6 2 address of said station including a physical (MAC) address and Route Information
7 Field information (RIF information) from said router to said each station, and;

8 a packet format circuit to write required RIF information read from said second
9 field of said ARP table into a Route Information Field (RIF) in a message packet before
10 routing said message packet to a destination station on a destination SRB subnet.

1 11. (PREVIOUSLY PRESENTED) A router for routing a source routed packet to a
2 Source Route Bridge (SRB) subnet for a destination station, comprising:

3 means for maintaining an address resolution protocol table (ARP table) in said
4 router having an entry for each station on said SRB subnet to which said router routes
5 packets, said entry having a first field containing a Layer 3 address of said each station,
6 said entry having a second field containing a Layer 2 address of said each station includ-
7 ing a physical (MAC) address and Route Information Field information (RIF informa-
8 tion) from said router to said each station, and;

9 means for writing said RIF information read from said second field of said ARP
10 table into a Route Information Field (RIF) in a message packet before routing said mes-
11 sage packet to said SRB subnet for said destination station.

1 12. (PREVIOUSLY PRESENTED) A computer readable device containing a computer
2 program for performing a method of routing a source routed packet to a Source Route
3 Bridge (SRB) subnet for a destination station, comprising:

4 maintaining an address resolution protocol table (ARP table) in a router having an
5 entry for each station on said SRB subnet to which said router routes packets, said entry
6 having a first field containing a Layer 3 address of said each station, said entry having a
7 second field containing a Layer 2 address of said each station including a physical
8 (MAC) address and Route Information Field information (RIF information) from said
9 router to said each station, and;

10 writing said RIF information read from said second field of said ARP table into a
11 Route Information Field (RIF) in a message packet before routing said message packet to
12 said SRB subnet for said destination station.

1 13. (CANCELLED)

1 14. (CURRENTLY AMENDED) An ARP table data structure stored in a computer memory
2 of a router, comprising:

3 an entry for each station on a Source Route Bridge (SRB) subnet to which said router
4 routes packets, said entry having a first field containing a Layer 3 address of ~~each~~ said each
5 station, said entry having a second field containing a Layer 2 address of said each station in-
6 cluding a physical (MAC) address and Route Information Field information (RIF informa-
7 tion) from said router to said each station, said RIF information in said second field of said
8 ARP table used for writing RIF information into a Route Information Field (RIF) in a mes-
9 sage packet before routing said message packet to said SRB subnet for said each station.

1 15. (PREVIOUSLY PRESENTED) The ARP table of claim 1 or claim 10, or claim 11, or
2 claim 12, or claim 14 wherein said Layer 3 address further comprises:

3 an address for an Internet Protocol (IP) communication session.

1 16. (PREVIOUSLY PRESENTED) The ARP table of claim 1 or claim 10, or claim 11, or
2 claim 12, or claim 14 wherein said Layer 3 address further comprises:

3 an address for an Appletalk communication session.

1 17. (PREVIOUSLY PRESENTED) The ARP table of claim 1 or claim 10, or claim 11, or
2 claim 12, or claim 14 wherein said Layer 3 address further comprises:

3 an address for a connectionless mode network service communication session.

1 18. (PREVIOUSLY PRESENTED) The ARP table of claim 1 or claim 10, or claim 11, or
2 claim 12, or claim 14 wherein said Layer 3 address further comprises:

3 an address for a DECnet communication session.

1 19. (PREVIOUSLY PRESENTED) The ARP table of claim 1 or claim 10, or claim 11, or
2 claim 12, or claim 14 wherein said Layer 3 address further comprises:

3 an address for an IPX communication session.

1 20. (PREVIOUSLY PRESENTED) The ARP table of claim 1 or claim 10, or claim 11, or
2 claim 12, or claim 14 wherein said Layer 3 address further comprises:

3 an address for a XNS communication session.

1 21. (PREVIOUSLY PRESENTED) The ARP table of claim 1 or claim 10, or claim 11, or
2 claim 12, or claim 14 wherein said Layer 3 address further comprises:

3 an address for a Vines communication session.

1 22. (CURRENTLY AMENDED) The method of claim 1 or claim 12, ~~or claim 13~~, further
2 comprising:

3 receiving data by a processor, said data received from a network connection for
4 maintaining said ARP table, and
5 storing said data in a FLASH memory.

1 23. (PREVIOUSLY PRESENTED) The router of claim 10 or claim 11, or claim 14, further
2 comprising:

3 a processor to receive data from a network connection, said data received from a net-
4 work connection for maintaining said ARP table, and to store said data in a FLASH memory.